MOUNTAIN VIEW WATER CORP. (PWS 5240019)
SOURCE WATER ASSESSMENT FINAL REPORT

September 25, 2002

State of Idaho
Department of Environmental Quality

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Executive Summary

Under the Safe Drinking Water Act Amendments of 1996, all states are required by the U.S. Environmental Protection Agency (EPA) to assess every source of public drinking water for its relative sensitivity to contaminants regulated by the act. This assessment is based on a land use inventory of the designated assessment area, sensitivity factors associated with the wells, and aquifer characteristics.

This report, *Source Water Assessment for the Mountain View Water Corp., Gooding, Idaho,* describes the public drinking water system, the boundaries of the zones of water contribution, and the associated potential contaminant sources located within these boundaries. This assessment should be used as a planning tool, taken into account with local knowledge and concerns, to develop and implement appropriate protection measures for this source. **The results should not be used as an absolute measure of risk and they should not be used to undermine public confidence in the water system.**

The Mountain View Water Corp. drinking water system consists of two ground water well sources. The wells are located approximately 1 mile southeast of the city of Gooding. The system serves approximately 60 people through 25 connections.

Final susceptibility scores are derived from equally weighing system construction scores, hydrologic sensitivity scores, and potential contaminant/land use scores. Therefore, a low rating in one or two categories coupled with a higher rating in other categories results in a final rating of low, moderate, or high susceptibility. With the potential contaminants associated with most urban and heavily agricultural areas, the best score a well can get is moderate. Potential Contaminants/Land Uses are divided into four categories, inorganic contaminants (IOCs, e.g. nitrates, arsenic), volatile organic contaminants (VOCs, e.g. petroleum products), synthetic organic contaminants (SOCs, e.g. pesticides), and microbial contaminants (e.g. bacteria). As different wells can be subject to various contamination settings, separate scores are given for each type of contaminant.

In terms of overall susceptibility, both Well #1 and Well #2 rated high for IOCs, VOCs, SOCs, and automatically high for microbials (Table 1). The automatically high microbial rating is due to the detection (October 1999) of total coliform in the well. Hydrologic sensitivity and system construction scores were both high for each well. Land use scores in each well were high for IOCs, VOCs, SOCs, and moderate for microbials.

Microbial bacteria have been the only significant water chemistry issues affecting the Mountain View Water Corp. wells. Total coliform and E.coli have been detected seven times in the distribution system and total coliform was detected once in the well, resulting in an automatic high rating. A chlorination treatment system is in usage. No VOCs have ever been detected in the well or its distribution system except for the disinfection byproduct bromoform. Traces of the IOCs fluoride, nitrate in concentrations of 2.07 milligram/liter (mg/l), and arsenic in concentrations of 2 parts per billion (ppb) have been detected in the tested water. The maximum contaminant level (MCL) for nitrate set by the Environmental Protection Agency (EPA) is 10 mg/l, and the MCL for arsenic is 10 ppb. No SOCs have ever been detected in the water.

Although not a concern at this point, the well exists in a region of high nitrogen fertilizer and county wide agricultural chemical use, and medium county wide herbicide use. In addition, the well's delineation intersects a priority area for the pesticide atrazine.

This assessment should be used as a basis for determining appropriate new protection measures or re-evaluating existing protection efforts. No matter what ranking a source receives, protection is always important. Whether the source is currently located in a “pristine” area or an area with numerous industrial and/or agricultural land uses that require surveillance, the way to ensure good water quality in the future is to act now to protect valuable water supply resources.

For the Mountain View Water Corp., drinking water protection activities should first focus on maintaining the requirements of the sanitary survey (an inspection conducted every five years with the purpose of determining the physical condition of a water system’s components and its capacity). Any spills that occur within the delineated area should be carefully monitored, as should any future development. Practices aimed at reducing the leaching of agricultural chemicals from agricultural land within the designated source water areas should be implemented. No chemicals should be stored or applied within a 50-foot radius of the wellhead. As most of the designated areas are outside the direct jurisdiction of the Mountain View Water Corp., making partnerships with state and local agencies and industry groups are critical to success of drinking water protection.

Due to the time involved with the movement of ground water, drinking water protection activities should be aimed at long-term management strategies even though these strategies may not yield results in the near term. A strong public education program should be a primary focus of any drinking water protection plan as the delineations are near both urban and residential land uses. Public education topics could include proper lawn and garden care practices, household hazardous waste disposal methods, proper care and maintenance of septic systems, and the importance of water conservation to name but a few. There are multiple resources available to help communities implement protection programs, including the Drinking Water Academy of the EPA. As major transportation corridors are located in the delineation, the State Department of Transportation should be involved in protection activities. Drinking water protection activities for agriculture should be coordinated with the Idaho State Department of Agriculture, the Soil Conservation Commission, the local Soil Conservation District, and the Natural Resources Conservation Service.

A system must incorporate a variety of strategies in order to develop a comprehensive drinking water protection plan, be they regulatory in nature (e.g. zoning, permitting), or non-regulatory in nature (e.g. good housekeeping, public education, specific best management practices). For assistance in developing protection strategies please contact the Twin Falls Regional Office of the Idaho Department of Environmental Quality or the Idaho Rural Water Association.

SOURCE WATER ASSESSMENT FOR THE MOUNTAIN VIEW WATER CORP., GOODING, IDAHO

Section 1. Introduction - Basis for Assessment

The following sections contain information necessary to understand how and why this assessment was conducted. **It is important to review this information to understand what the rankings of this assessment mean.** Maps showing the delineated source water assessment areas and the inventory of significant potential sources of contamination identified within those areas are attached. The lists of significant potential contaminant source categories and their rankings, used to develop this assessment, are also attached.

Level of Accuracy and Purpose of the Assessment

The Idaho Department of Environmental Quality (DEQ) is required by the EPA to assess the over 2,900 public drinking water sources in Idaho for their relative susceptibility to contaminants regulated by the Safe Drinking Water Act. This assessment is based on a land use inventory of the delineated assessment area, sensitivity factors associated with the wells, and aquifer characteristics. All assessments must be completed by May of 2003. The resources and time available to accomplish assessments are limited. Therefore, an in-depth, site-specific investigation to identify each significant potential source of contamination for every public water system is not possible. **This assessment should be used as a planning tool, taken into account with local knowledge and concerns, to develop and implement appropriate protection measures for this source. The results should not be used as an absolute measure of risk and they should not be used to undermine public confidence in the water system.**

The ultimate goal of this assessment is to provide data to local communities to develop a protection strategy for their drinking water supply system. The Idaho DEQ recognizes that pollution prevention activities generally require less time and money to implement than treating a public water supply system once it has been contaminated. DEQ encourages communities to balance resource protection with economic growth and development. The decision as to the amount and types of information necessary to develop a source water protection program should be determined by the local community based on its own needs and limitations. Drinking water protection is one facet of a comprehensive growth plan, and it can complement ongoing local planning efforts.

Section 2. Conducting the Assessment

General Description of the Source Water Quality

The Mountain View Water Corp. drinking water system consists of two ground water well sources. The wells are located approximately 1 mile southeast of the city of Gooding. The system serves approximately 60 people through 25 connections.

Microbial bacteria have been the only significant water chemistry issues affecting the Mountain View Water Corp. wells. Total coliform and E.coli have been detected seven times in the distribution system and total coliform was detected once in the well, resulting in an automatic high rating. A chlorination treatment system is in usage. No VOCs have ever been detected in the well or its distribution system except for the disinfection byproduct bromoform. Traces of the IOCs fluoride, nitrate in concentrations of 2.07 mg/l, and arsenic in concentrations of 2 ppb have been detected in the tested water. The MCL for nitrate set by the EPA is 10 mg/l, and the MCL for arsenic is 10 ppb. No SOCs have ever been detected in the water.

Although not a concern at this point, the well exists in a county of high nitrogen fertilizer and agricultural chemical use, and medium county wide herbicide use. In addition, the well's delineation intersects a priority area for the pesticide atrazine.

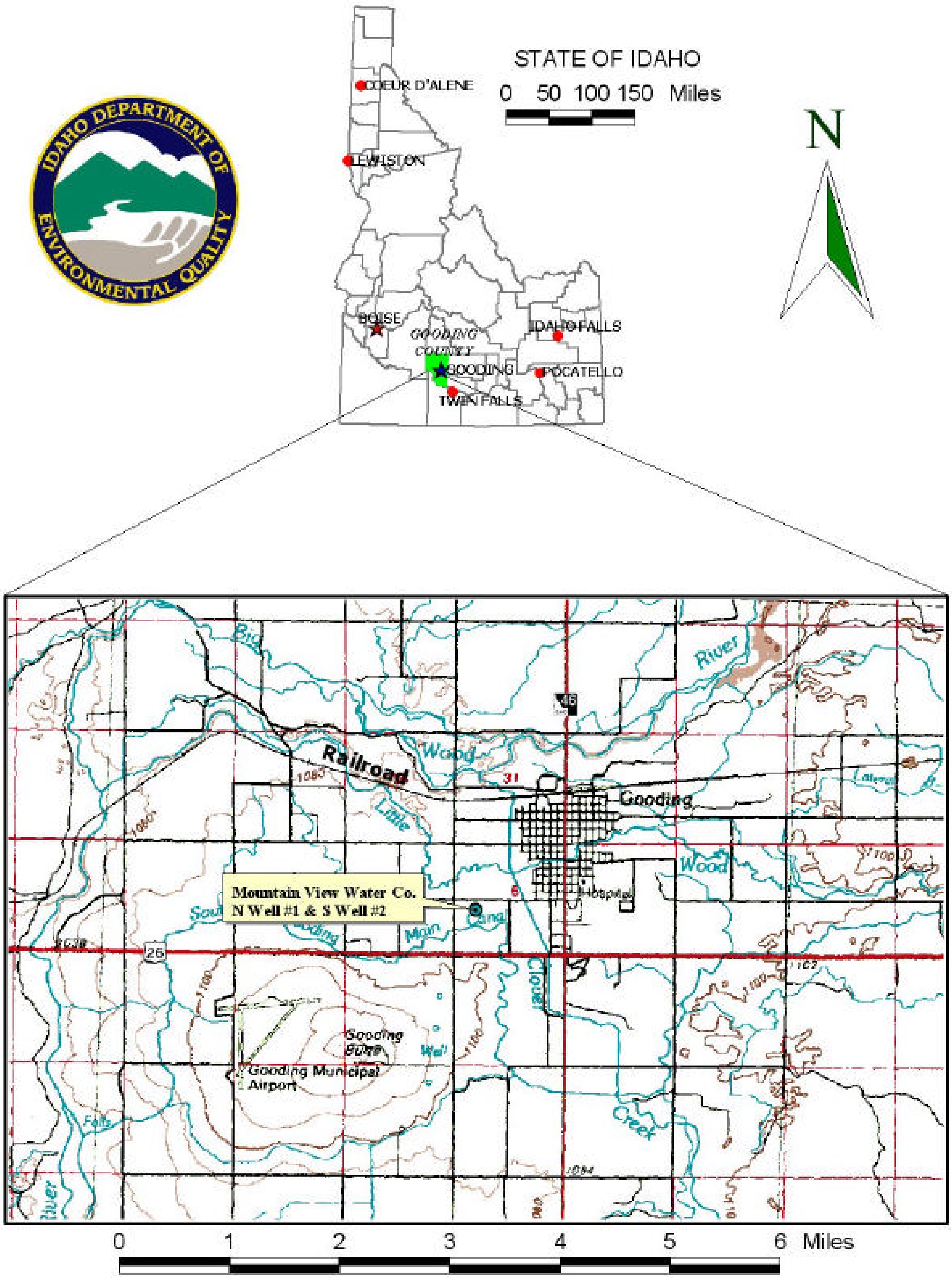
Defining the Zones of Contribution – Delineation

The delineation process establishes the physical area around a well that will become the focal point of the assessment. The process includes mapping the boundaries of the zone of contribution into time-of-travel zones (zones indicating the number of years necessary for a particle of water to reach a well) for water in the aquifer. Washington Group, International (WGI) used a refined computer model approved by the EPA in determining the time-of-travel (TOT) zones for water associated with the Southwest Eastern Snake River Plain (SW ESRP) aquifer. The computer model used site-specific data, assimilated by DEQ and WGI from a variety of sources including local area well logs and hydrogeologic reports summarized below.

The ESRP is a northeast trending basin located in southeastern Idaho. The 10,000 square miles of the plain are filled primarily with highly fractured layered Quaternary basalt flows of the Snake River Group, which are intercalated with sedimentary rocks along the margins (Garabedian, 1992, p. 5). Individual basalt flows range from 10 to 50 feet thick, averaging 20 to 25 feet thick (Lindholm, 1996, p. 14). Basalt is thickest in the central part of the eastern plain and thins toward the margins. Whitehead (1992, p. 9) estimates the total thickness of the flows to be as great as 5,000 feet. A thin layer (0 to 100 feet) of windblown and fluvial sediments overlies the basalt.

The layered basalts of the Snake River Group host one of the most productive aquifers in the United States. The aquifer is generally considered unconfined, yet may be confined locally because of interbedded clay and dense unfractured basalt (Whitehead, 1992, p. 26). Whitehead (1992, p. 22) reports that well yields of 2,000 to 3,000 gal/min are common for wells open to less than 100 feet of the aquifer. Lindholm (1996, p. 18) estimates aquifer thickness to range from 100 feet near the plain's margin to thousands of feet near the center. Models of the regional aquifer have used values ranging from 200 to 3,000 feet to represent aquifer thickness (Cosgrove et al., 1999, p. 15).

FIGURE 1. Geographic Location of the Mountain View Water Co. Wells



Regional ground-water flow is to the southwest paralleling the basin (Cosgrove et al., 1999; deSonneville, 1972, p. 78; Garabedian, 1992, p. 48; and Lindholm, 1996, p. 23). Reported water table gradients range from 3 to 100 ft/mile and average 12 ft/mile (Lindholm, 1996, p. 22). Gradients steepen at the plain's margin and at discharge locations.

The majority of aquifer recharge results from surface water irrigation activities (incidental recharge), which divert water from the Snake River and its tributaries (Ackerman, 1995, p. 4, and Garabedian, 1992, p. 11). Natural recharge occurs through stream losses, direct precipitation, and tributary basin underflow.

The Southwest Margin of the ESRP hydrologic province is the regional aquifer's primary discharge area. Interpretation of well logs indicates that a 1- to 23-foot-thick layer of sediment overlies the fractured basalt aquifer in Jerome County, and that an 8- to 410-foot-thick layer of sediment overlies the same aquifer in southern Minidoka and Power Counties. Published geologic maps of the Snake River Plain (Whitehead 1992, Plates 1 and 5) indicate there is 100 to 500 feet of Quaternary to Tertiary Basalts aged compacted to poorly consolidated sediments located in the Heyburn area (north of the Snake River near Burley). The saturated thickness of the regional basalt aquifer for the Southwest Margin is estimated to range from less than 500 feet near the Snake River to 1,500 feet near Minidoka.

A published water table map of the Kimberly to Bliss region of the aquifer (Moreland, 1976, p. 5) indicates that the ground-water flow direction in the Southwest Margin is similar to that depicted at the regional scale (e.g., Garabedian, 1992, Plate 4).

Annual average precipitation for the period 1951 to 1980 is 9.6 inches in both Twin Falls and Burley (Kjelstrom, 1995, p. 3). The estimated recharge from precipitation in the Southwest Margin ranges from less than 0.5 inch to more than 2 in./yr (Garabedian, 1992, p. 20). Kjelstrom (1995, p. 13) reports an annual river loss of 110,000 acre-feet to the aquifer for the 34.8-mile Minidoka-to-Milner reach of the Snake River. River gains of 210,000 acre-feet for the 21.5-mile Milner-to-Kimberly reach, and 880,000 acre-feet for the 20.4-mile Kimberly-to-Buhl reach are reported for the same period.

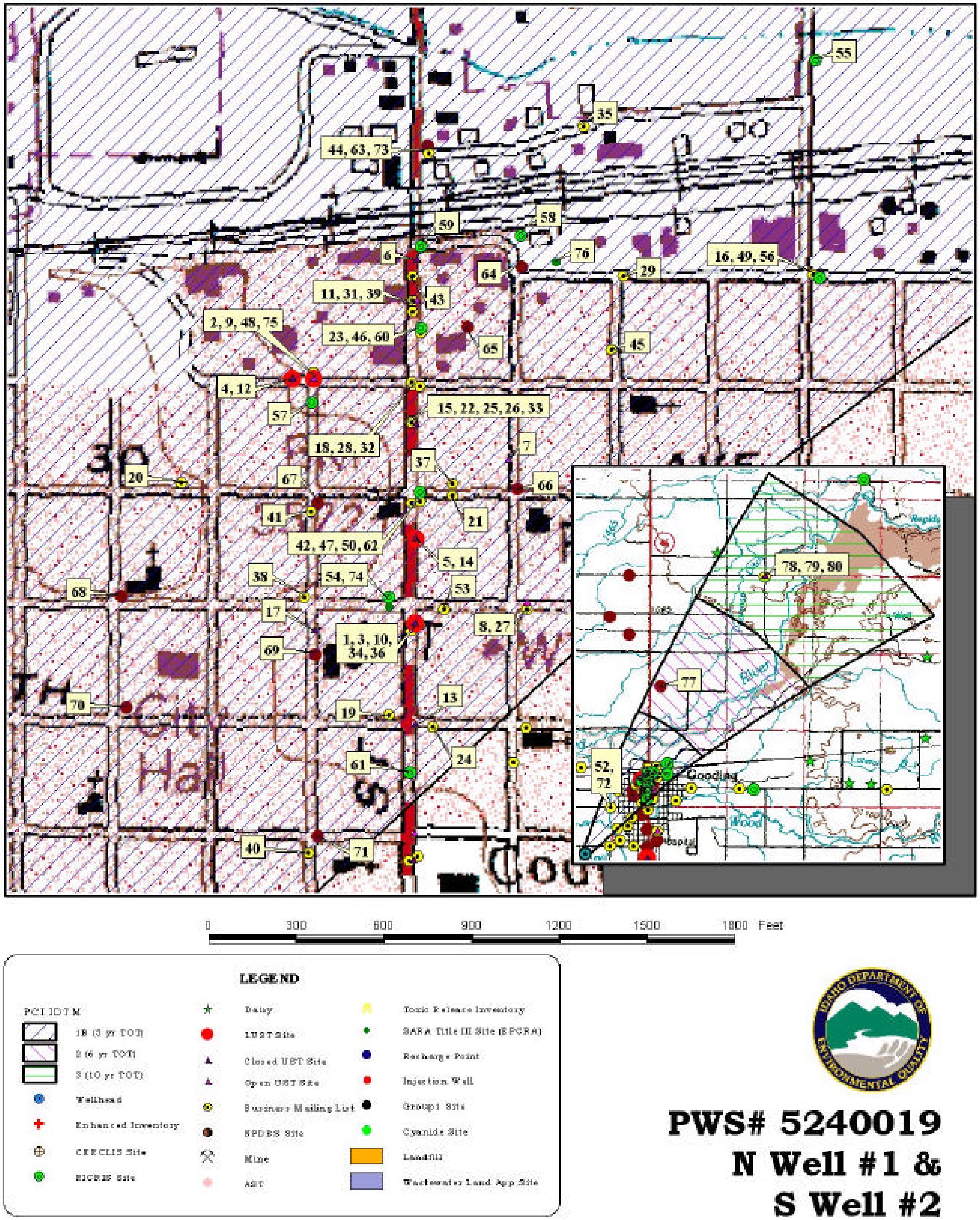
The delineated source water assessment area for the wells of the Mountain View Water Corp. can best be described as a pie-shaped corridor extending approximately 11 miles to the northeast from the wellheads and widening to approximately 5 miles (Figure 2). The actual data used by WGI in determining the source water assessment delineation area is available from DEQ upon request.

Identifying Potential Sources of Contamination

A potential source of contamination is defined as any facility or activity that stores, uses, or produces, as a product or by-product, the contaminants regulated under the Safe Drinking Water Act and has a sufficient likelihood of releasing such contaminants at levels that could pose a concern relative to drinking water sources. The goal of the inventory process is to locate and describe those facilities, land uses, and environmental conditions that are potential sources of ground water contamination. The locations of potential sources of contamination within the delineation areas were obtained by field surveys conducted by DEQ, the Mountain View Water Corp., and from available databases.

The dominant land use outside the area of Mountain View Water Corp. is irrigated agriculture and rangeland. Land use within the immediate area of the wellhead consists of urban and irrigated agricultural property.

FIGURE 2 - Mountain View Water Co. Delineation Map and Potential Contaminant Source Locations



PWS# 5240019
N Well #1 &
S Well #2

It is important to understand that a release may never occur from a potential source of contamination provided best management practices are used at the facility. Many potential sources of contamination are regulated at the federal level, state level, or both, to reduce the risk of release. Therefore, when a business, facility, or property is identified as a potential contaminant source, this should not be interpreted to mean that this business, facility, or property is in violation of any local, state, or federal environmental law or regulation. What it does mean is that the potential for contamination exists due to the nature of the business, industry, or operation. There are a number of methods that water systems can use to work cooperatively with potential sources of contamination, such as educational visits and inspections of stored materials. Many owners of such facilities may not even be aware that they are located near a public water supply well.

Contaminant Source Inventory Process

A contaminant inventory of the study area was conducted in May and June 2002. This involved identifying and documenting potential contaminant sources within the Mountain View Water Corp. Source Water Assessment Areas through the use of computer databases and Geographic Information System maps developed by DEQ.

The delineation for the Mountain View Water Corp. well has 73 listed potential sources (Appendix A; Table 2). The GIS map (Figure 2) shows that the Union Pacific railroad, Highway 46, and the Big Wood River system exist within the delineation. Contaminants could be added to the aquifer in the event of an accidental spill or release associated with these sources. Additionally, underground storage tanks (USTs), leaking underground storage tanks (LUSTs), resource conservation recovery act (RCRA) sites, deep injection wells, superfund amendments and reauthorization act (SARA) sites, and many service and industrial related businesses are point sources within the delineation which could contribute contaminants to the aquifer if an accident occurred at them.

Section 3. Susceptibility Analyses

The well's susceptibility to contamination was ranked as high, moderate, or low risk according to the following considerations: hydrologic characteristics, physical integrity of the well, land use characteristics, and potentially significant contaminant sources. The susceptibility rankings are specific to a particular potential contaminant or category of contaminants. Therefore, a high susceptibility rating relative to one potential contaminant does not mean that the water system is at the same risk for all other potential contaminants. The relative ranking that is derived for each well is a qualitative, screening-level step that, in many cases, uses generalized assumptions and best professional judgement. Appendix A contains the susceptibility analysis worksheets.

Hydrologic Sensitivity

The hydrologic sensitivity of a well is dependent upon four factors: the surface soil composition, the material in the vadose zone (between the land surface and the water table), the depth to first ground water, and the presence of a 50-foot thick fine-grained zone (aquitard) above the producing zone of the well. Slowly draining soils such as silt and clay typically are more protective of ground water than coarse-grained soils such as sand and gravel. Similarly, fine-grained sediments in the subsurface and a water depth of more than 300 feet protect the ground water from contamination.

The hydrologic sensitivity was high for both wells. This rating reflects the moderately to highly drained nature of the soil of the region, which would allow the downward movement of contaminants. The scores were also increased because the vadose zone composition, depth to first water, and presence of an aquitard are unknown. This information is derived from the well log. Any missing information is automatically given the most conservative, highest score. If a well log had been available, the scores might have been lower.

Well Construction

Well construction directly affects the ability of the well to protect the aquifer from contaminants. System construction scores are reduced when information shows that potential contaminants will have a more difficult time reaching the intake of the well. Lower scores imply a system is less vulnerable to contamination. For example, if the well casing and annular seal both extend into a low permeability unit, then the possibility of contamination is reduced and the system construction score goes down. If the highest production interval is more than 100 feet below the water table, then the system is considered to have better buffering capacity. If the wellhead and surface seal are maintained to standards, as outlined in Sanitary Surveys, then contamination down the well bore is less likely. If the well is protected from surface flooding and is outside the 100-year floodplain, then contamination from surface events is reduced.

Both wells rated high for system construction. The well is not in a 100 year floodplain, and based on the March 2002 sanitary survey, it is protected from surface flooding. The scores were increased because it is unknown if either well's casing and annular seal extends into low permeability units, or if the highest production comes from more than 100 feet below static water levels. A well log would have the missing information. In addition, the wellhead and sanitary seal are not maintained. The sanitary survey noted that swimming pool chemicals were being stored in the well house, the surface seal is not waterproof, the well's cover is loose, and the well house is generally not clean.

The Idaho Department of Water Resources *Well Construction Standards Rules* (1993) require all Public Water Systems (PWSs) to follow DEQ standards as well. IDAPA 58.01.08.550 requires that PWSs follow the *Recommended Standards for Water Works* (1997) during construction. Some of the requirements include casing thickness, well tests, and depth and formation type that the surface seal must be installed into. Table 1 of the *Recommended Standards for Water Works* (1997) lists the required steel casing thickness for various diameter wells. Ten-inch diameter wells require a casing thickness of at least 0.365 inches. Well tests are required at the design pumping rate for 24 hours or until stabilized drawdown has continued for at least six hours when pumping at 1.5 times the design pumping rate. A point was added to both well's score because current construction standards are either unknown or not followed. Though the wells may have met standards at the time of construction, current construction standards are stricter.

Potential Contaminant Source and Land Use

The Mountain View Water Corp. wells rated high for IOCs (e.g. arsenic, nitrate), SOCs (e.g. pesticides), VOCs (e.g. petroleum products) and moderate for microbial contaminants (e.g. bacteria)(Table 1). The transportation corridors and the river, which run through the delineation, contributed to the rating, as well as the point sources associated with the many industrial and service related businesses.

Final Susceptibility Rating

An IOC detection above a drinking water standard MCL, any detection of a VOC or SOC, or a detection of total coliform bacteria or fecal coliform bacteria at the wellhead will automatically give a high susceptibility rating to a well, despite the land use of the area, because a pathway for contamination already exists. Additionally, the storage or application of any potential contaminants within 50 feet of the wellhead will automatically lead to a high score. Hydrologic sensitivity and system construction scores are heavily weighted in the final scores. Having multiple potential contaminant sources in the 0- to 3-year time-of-travel zone (Zone 1B) and much agricultural land use contribute greatly to the overall ranking. In terms of total susceptibility, the Mountain View Water Corp. wells have high susceptibility to the IOC, VOC, and SOC potential contaminants, and automatically high susceptibility to microbial potential contaminants.

Table 1. Summary of the Mountain View Water Corp. Susceptibility Evaluation

Source	Susceptibility Scores[1]									
	Hydrologic Sensitivity	Contaminant Inventory				System Construction	**Final Susceptibility Ranking**			
		IOC	VOC	SOC	Microbials		IOC	VOC	SOC	Microbials
Well #1	H	H	H	H	M	H	H	H	H	H*
Well #2	H	H	H	H	M	H	H	H	H	H*

[1]H = High Susceptibility, M = Moderate Susceptibility, L = Low Susceptibility
IOC = inorganic chemical, VOC = volatile organic chemical, SOC = synthetic organic chemical
H* = automatically high rating due to total coliform detection (October 1999) in the well

Susceptibility Summary

The Mountain View Water Corp. drinking water system consists of two ground water well sources. The wells are located approximately 1 mile southeast of the city of Gooding. The system serves approximately 60 people through 22 connections.

In terms of overall susceptibility, both Well #1 and Well #2 rated high for IOCs, VOCs, SOCs, and automatically high for microbials. The automatically high microbial rating is due to the detection (October 1999) of total coliform in the well. Hydrologic sensitivity and system construction scores were both high for each well. Land use scores in each well were high for IOCs, VOCs, SOCs, and moderate for microbials.

Section 4. Options for Drinking Water Protection

The susceptibility assessment should be used as a basis for determining appropriate new protection measures or re-evaluating existing protection efforts. No matter what the susceptibility ranking a source receives, protection is always important. Whether the source is currently located in a “pristine” area or an area with numerous industrial and/or agricultural land uses that require surveillance, the way to ensure good water quality in the future is to act now to protect valuable water supply resources.

An effective drinking water protection program is tailored to the particular local water protection area. A community with a fully developed water protection program will incorporate many strategies, be they regulatory in nature (e.g. zoning, permitting) or non-regulatory in nature (e.g. good housekeeping, public education, specific best management practices). For the Mountain View Water Corp., drinking water protection activities should first focus on maintaining the requirements of the sanitary survey. Any spills from potential contaminant sources should be carefully monitored, as should any future development in the delineated areas. Practices aimed at reducing the leaching of agricultural chemicals from agricultural land within the designated source water areas should be implemented. Also, disinfection practices should be maintained to prevent any further microbial contamination issues. No chemicals should be stored or applied within the 50-foot radius of the wellhead. Most of the designated areas are outside the direct jurisdiction of the Mountain View Water Corp., making partnerships with state and local agencies and industry groups critical to success of drinking water protection.

Due to the time involved with the movement of ground water, drinking water protection activities should be aimed at long-term management strategies even though these strategies may not yield results in the near term. A strong public education program should be a primary focus of any drinking water protection plan as the delineations are near both urban and residential land use areas. There are multiple resources available to help communities implement protection programs, including the Drinking Water Academy of the U.S. Environmental Protection Agency. There are major transportation corridors that cross the delineations, therefore the State Department of Transportation should be involved in protection activities. Drinking water protection activities for agriculture should be coordinated with the Idaho State Department of Agriculture, the Soil Conservation Commission, the local Soil Conservation District, and the Natural Resources Conservation Service.

A system must incorporate a variety of strategies in order to develop a comprehensive drinking water protection plan, be they regulatory in nature (e.g. zoning, permitting) or non-regulatory in nature (e.g. good housekeeping, public education, specific best management practices). For assistance in developing protection strategies please contact the Twin Falls Regional Office of the Idaho Department of Environmental Quality or the Idaho Rural Water Association.

Assistance

Public water suppliers and others may call the following DEQ offices with questions about this assessment and to request assistance with developing and implementing a local protection plan. In addition, draft protection plans may be submitted to the DEQ office for preliminary review and comments.

Twin Falls Regional DEQ Office	(208) 736-2190
State DEQ Office	(208) 373-0502

Website: http://www.deq.state.id.us

Water suppliers serving fewer than 10,000 persons may contact Melinda Harper, (mailto:mlharper@idahoruralwater.com) Idaho Rural Water Association, at 1-208-343-7001 for assistance with drinking water protection (formerly wellhead protection) strategies.

POTENTIAL CONTAMINANT INVENTORY
LIST OF ACRONYMS AND DEFINITIONS

AST (Aboveground Storage Tanks) – Sites with aboveground storage tanks.

Business Mailing List – This list contains potential contaminant sites identified through a yellow pages database search of standard industry codes (SIC).

CERCLIS – This includes sites considered for listing under the **Comprehensive Environmental Response Compensation and Liability Act (CERCLA)**. CERCLA, more commonly known as ASuperfund≅ is designed to clean up hazardous waste sites that are on the national priority list (NPL).

Cyanide Site – DEQ permitted and known historical sites/facilities using cyanide.

Dairy – Sites included in the primary contaminant source inventory represent those facilities regulated by Idaho State Department of Agriculture (ISDA) and may range from a few head to several thousand head of milking cows.

Deep Injection Well – Injection wells regulated under the Idaho Department of Water Resources generally for the disposal of stormwater runoff or agricultural field drainage.

Enhanced Inventory – Enhanced inventory locations are potential contaminant source sites added by the water system. These can include new sites not captured during the primary contaminant inventory, or corrected locations for sites not properly located during the primary contaminant inventory. Enhanced inventory sites can also include miscellaneous sites added by the Idaho Department of Environmental Quality (DEQ) during the primary contaminant inventory.

Floodplain – This is a coverage of the 100year floodplains.

Group 1 Sites – These are sites that show elevated levels of contaminants and are not within the priority one areas.

Inorganic Priority Area – Priority one areas where greater than 25% of the wells/springs show constituents higher than primary standards or other health standards.

Landfill – Areas of open and closed municipal and non-municipal landfills.

LUST (Leaking Underground Storage Tank) – Potential contaminant source sites associated with leaking underground storage tanks as regulated under RCRA.

Mines and Quarries – Mines and quarries permitted through the Idaho Department of Lands.

Nitrate Priority Area – Area where greater than 25% of wells/springs show nitrate values above 5mg/l.

NPDES (National Pollutant Discharge Elimination System) – Sites with NPDES permits. The Clean Water Act requires that any discharge of a pollutant to waters of the United States from a point source must be authorized by an NPDES permit.

Organic Priority Areas – These are any areas where greater than 25 % of wells/springs show levels greater than 1% of the primary standard or other health standards.

Recharge Point – This includes active, proposed, and possible recharge sites on the Snake River Plain.

RICRIS – Site regulated under **Resource Conservation Recovery Act (RCRA)**. RCRA is commonly associated with the cradle to grave management approach for generation, storage, and disposal of hazardous wastes.

SARA Tier II (Superfund Amendments and Reauthorization Act Tier II Facilities) – These sites store certain types and amounts of hazardous materials and must be identified under the Community Right to Know Act.

Toxic Release Inventory (TRI) – The toxic release inventory list was developed as part of the Emergency Planning and Community Right to Know (Community Right to Know) Act passed in 1986. The Community Right to Know Act requires the reporting of any release of a chemical found on the TRI list.

UST (Underground Storage Tank) – Potential contaminant source sites associated with underground storage tanks regulated as regulated under RCRA.

Wastewater Land Applications Sites – These are areas where the land application of municipal or industrial wastewater is permitted by DEQ.

Wellheads – These are drinking water well locations regulated under the Safe Drinking Water Act. They are not treated as potential contaminant sources.

NOTE: Many of the potential contaminant sources were located using a geocoding program where mailing addresses are used to locate a facility. Field verification of potential contaminant sources is an important element of an enhanced inventory.

Where possible, a list of potential contaminant sites unable to be located with geocoding will be provided to water systems to determine if the potential contaminant sources are located within the source water assessment area.

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Appendix A

Mountain View Water Corp.
Potential Contaminant Inventory Table
and
Susceptibility Analysis Worksheet

Table 2. Well #1 and Well #2, Potential Contaminant Inventory

SITE	Source Description[1]	TOT[2] ZONE	Source of Information	Potential Contaminants[3]
1	Site Cleanup Completed , Impact: Unknown, LUST site	3 YR	Database Search	VOC, SOC
2, 48, 75	Farm Supplies (Wholesale); site cleanup completed, SARA site, LUST site	3 YR	Database Search	IOC, VOC, SOC
3, 10	State Government; Closed; site cleanup completed, UST site, LUST site	3 YR	Database Search	VOC, SOC
4, 12	Local Government; Closed; site cleanup completed, UST site, LUST site	3 YR	Database Search	VOC, SOC
5, 14	Commercial, closed; Site Cleanup Completed , Impact: Unknown, LUST site, UST site	3 YR	Database Search	VOC, SOC
6	Commercial; Closed, UST site	3 YR	Database Search	VOC, SOC
7, 21	Tractor-Dealers (Wholesale), UST site	3 YR	Database Search	VOC, SOC
8, 27	Automobile Repairing & Service; gas station, open, UST site	3 YR	Database Search	IOC, VOC, SOC
9	Gas Station; Open, UST site	3 YR	Database Search	IOC, VOC, SOC
11	Gas Station; Open, UST site	3 YR	Database Search	IOC, VOC, SOC
13	Not Listed; Closed, UST site	3 YR	Database Search	VOC, SOC
15	Commercial; Closed, UST site	3 YR	Database Search	VOC, SOC
16, 56	Commercial; Closed, UST site, RCRA site	3 YR	Database Search	VOC, SOC
17	Local Government; Closed, UST site	3 YR	Database Search	VOC, SOC
18	Photographers-Portrait	3 YR	Database Search	IOC, VOC
19	Grain-Dealers (Wholesale)	3 YR	Database Search	IOC, SOC, Microbials
20	Hay (Wholesale)	3 YR	Database Search	IOC, SOC, Microbials
22	Veterinarians	3 YR	Database Search	IOC, SOC, Microbials
23	Cleaners	3 YR	Database Search	IOC, VOC, SOC
24	Hardware-Retail	3 YR	Database Search	IOC, VOC, SOC
25	Veterinarians	3 YR	Database Search	IOC, SOC, Microbials
26	Automobile Dealers-Used Cars	3 YR	Database Search	IOC, VOC, SOC
28	Newspapers (Publishers)	3 YR	Database Search	IOC, VOC
29	Fertilizers (Wholesale)	3 YR	Database Search	IOC, SOC, Microbials
30	Truck-Repairing & Service	3 YR	Database Search	IOC, VOC, SOC
31	Automobile Repairing & Service	3 YR	Database Search	IOC, VOC, SOC
32	Motorcycles & Motor Scooters-Dealer	3 YR	Database Search	IOC, VOC, SOC
33	Veterinarians	3 YR	Database Search	IOC, SOC, Microbials
34	Electric Companies	3 YR	Database Search	IOC, VOC, SOC
35	Truck-Repairing & Service	3 YR	Database Search	IOC, VOC, SOC
36	State Government-National Security	3 YR	Database Search	IOC, VOC, SOC
37	Automobile Parts & Supplies-Retail	3 YR	Database Search	IOC, VOC, SOC
38	Mufflers & Exhaust Systems-Engine	3 YR	Database Search	IOC, VOC, SOC
39	Automobile Body-Repairing & Painting	3 YR	Database Search	IOC, VOC, SOC
40	Printers	3 YR	Database Search	IOC, VOC
41	Automobile Body-Repairing & Painting	3 YR	Database Search	IOC, VOC, SOC
42	Demolition Contractors	3 YR	Database Search	IOC, VOC, SOC
43	Automobile Body-Repairing & Painting	3 YR	Database Search	IOC, VOC, SOC
44, 73	Oils-Fuel (Wholesale), SARA site	3 YR	Database Search	IOC, VOC, SOC
45	Machine Shops	3 YR	Database Search	IOC, VOC, SOC

SITE	Source Description[1]	TOT[2] ZONE	Source of Information	Potential Contaminants[3]
46	Lawn & Garden Equip & Supplies	3 YR	Database Search	IOC, VOC, SOC
47	Commercial Printing	3 YR	Database Search	IOC, VOC
49	Hay (Wholesale)	3 YR	Database Search	IOC, SOC, Microbials
50	Automobile Parts & Supplies-Retail	3 YR	Database Search	IOC, VOC, SOC
51	Wrecker Service	3 YR	Database Search	IOC, VOC, SOC
52	Fertilizers-Manufacturers	3 YR	Database Search	IOC, SOC, Microbials
53	Automobile Parts & Supplies-Retail	3 YR	Database Search	IOC, VOC, SOC
54	RCRA site	3 YR	Database Search	IOC, VOC, SOC
55	RCRA site	3 YR	Database Search	IOC, VOC, SOC
57	RCRA site	3 YR	Database Search	IOC, VOC, SOC
58, 76	RCRA site, SARA site	3 YR	Database Search	IOC, VOC, SOC
59	RCRA site	3 YR	Database Search	IOC, VOC, SOC
60	RCRA site	3 YR	Database Search	IOC, VOC, SOC
61	RCRA site	3 YR	Database Search	IOC, VOC, SOC
62	RCRA site	3 YR	Database Search	IOC, VOC, SOC
63	Deep Injection Well, active	3 YR	Database Search	IOC, SOC, Microbials
64	Deep Injection Well, active	3 YR	Database Search	IOC, SOC, Microbials
65	Deep Injection Well, active	3 YR	Database Search	IOC, SOC, Microbials
66	Deep Injection Well, active	3 YR	Database Search	IOC, SOC, Microbials
67	Deep Injection Well, active	3 YR	Database Search	IOC, SOC, Microbials
68	Deep Injection Well, active	3 YR	Database Search	IOC, SOC, Microbials
69	Deep Injection Well, active	3 YR	Database Search	IOC, SOC, Microbials
70	Deep Injection Well, active	3 YR	Database Search	IOC, SOC, Microbials
71	Deep Injection Well, active	3 YR	Database Search	IOC, SOC, Microbials
72	Fertilizers, mixing only, SARA site	3 YR	Database Search	IOC, VOC, SOC
74	SARA site	3 YR	Database Search	IOC, VOC, SOC
77	Deep Injection Well	6 YR	Database Search	IOC, SOC, Microbials
78	Farm; Closed, UST site	10 YR	Database Search	VOC, SOC
79	Livestock Feeding	10 YR	Database Search	IOC, SOC
80	Livestock Hauling	10 YR	Database Search	IOC, SOC
	Big Wood River system	0-10 YR	GIS Map	IOC, VOC, SOC, Microbials
	Highway 46	0-6 YR	GIS Map	IOC, VOC, SOC, Microbials
	Union Pacific Railroad	0-3 YR	GIS Map	IOC, VOC, SOC, Microbials

[1] USTs = underground storage tanks, LUSTs = leaking underground storage tanks, RCRA = resource conservation recovery act sites, SARA = superfund amendments and reauthorization act
[2] TOT = time-of-travel (in years) for a potential contaminant to reach the wellhead
[3] IOC = inorganic chemical, VOC = volatile organic chemical, SOC = synthetic organic chemical

The final scores for the susceptibility analysis were determined using the following formulas:

1) VOC/SOC/IOC Final Score = Hydrologic Sensitivity + System Construction + (Potential Contaminant/Land Use x 0.2)

2) Microbial Final Score = Hydrologic Sensitivity + System Construction + (Potential Contaminant/Land Use x 0.35)

Final Susceptibility Scoring:

0 - 5 Low Susceptibility

6 - 12 Moderate Susceptibility

≥ 13 High Susceptibility

Ground Water Susceptibility Report   Public Water System Name : MOUNTAIN VIEW WATER CORP

Well# : N WELL #1 and S WELL #2

Public Water System Number 5240019   07/05/2002 11:25:39 AM

		IOC Score	VOC Score	SOC Score	Microbial Score
1. System Construction		SCORE			
Drill Date	unknown				
Driller Log Available	NO				
Sanitary Survey (if yes, indicate date of last survey)	YES	2002			
Well meets IDWR construction standards	NO	1			
Wellhead and surface seal maintained	NO	1			
Casing and annular seal extend to low permeability unit	NO	2			
Highest production 100 feet below static water level	NO	1			
Well located outside the 100 year flood plain	YES	0			
Total System Construction Score		5			
2. Hydrologic Sensitivity					
Soils are poorly to moderately drained	NO	2			
Vadose zone composed of gravel, fractured rock or unknown	YES	1			
Depth to first water > 300 feet	NO	1			
Aquitard present with > 50 feet cumulative thickness	NO	2			
Total Hydrologic Score		6			
3. Potential Contaminant / Land Use - ZONE 1A		IOC Score	VOC Score	SOC Score	Microbial Score
Land Use Zone 1A	IRRIGATED CROPLAND	2	2	2	2
Farm chemical use high	YES	2	0	2	
IOC, VOC, SOC, or Microbial sources in Zone 1A	YES	NO	NO	NO	YES
Total Potential Contaminant Source/Land Use Score - Zone 1A		4	2	4	2
Potential Contaminant / Land Use - ZONE 1B					
Contaminant sources present (Number of Sources)	YES	59	52	65	20
(Score = # Sources X 2) 8 Points Maximum		8	8	8	8
Sources of Class II or III leacheable contaminants or	YES	18	18	18	
4 Points Maximum		4	4	4	
Zone 1B contains or intercepts a Group 1 Area	YES	0	0	2	0
Land use Zone 1B	25 to 50% Irrigated Agricultural Land	2	2	2	2
Total Potential Contaminant Source / Land Use Score - Zone 1B		14	14	16	10
Potential Contaminant / Land Use - ZONE II					
Contaminant Sources Present	YES	2	2	2	
Sources of Class II or III leacheable contaminants or	YES	1	1	1	
Land Use Zone II	Greater Than 50% Irrigated Agricultural Land	2	2	2	
Potential Contaminant Source / Land Use Score - Zone II		5	5	5	0
Potential Contaminant / Land Use - ZONE III					
Contaminant Source Present	YES	1	1	1	
Sources of Class II or III leacheable contaminants or	YES	1	1	1	
Is there irrigated agricultural lands that occupy > 50% of	YES	1	1	1	
Total Potential Contaminant Source / Land Use Score - Zone III		3	3	3	0
Cumulative Potential Contaminant / Land Use Score		26	24	28	12
4. Final Susceptibility Source Score		16	16	17	15
5. Final Well Ranking		High	High	High	High